Work Order April-11-13 2:39:1.		9 :		*99669*						Page 1		
Item ID: 640 Revision ID:	6.3110			Accept	*	N900	740	100)* s	etup Sta	rt *N	S1*
	annel									Sto	^{pp} *N	S2*
Start Date: 5/2		tart Qty: 10.00	*10*			Cust Item II) :					
Required Date: 5/2 Reference:	24/13 R	leq'd Qty: 10.00	*10*	,	•	Customer:						
		MUS	Date: 13-04-10	-	<u> </u>	,	te:		R	un Sta Sto	" [\]	R1* R2*
Sequence ID/ Work Center ID		peration escription		Set Up/ Run Ho	urs	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revisio	on Nbr										
646.3100	N/C											
100 *100* Bandsaw	В	AND SAW		0.00	Oul	13/04/2	3		10	ø	·	-
Jeaspa Bandsaw		Memo Cut Blank at	15.00"	0.00	·	· Cy · (rat)			•			
,												
110				0.00						÷		
110 HAAS I	Н	AAS CNC VERTICAL Memo	MACHINING #1	0.00		13/04/2	18		10	_0		
HAAS CNC vertical ma	chine #1	1-Machine p DWG REV:	er folio FB145			1301/2	7					

2- deburr and break all sharp edges

NCR:	Yes	1	No
NCK:	res	/	NO

DQA: ____ Date: ____

NCR:	⁄es	/ No				WORK ORDER NON-G	LOI	NFORM	VIANCE / UP	DATE	QA Closed:	Date:	
			e ta es			DISPOSITION		·		AGAINST DE	PARTMENT	PROCESS	
Work Ord	er:					D	٦		المام المام المام	Craastuba	ì	Water Jet	Engineering
Part f	lo.					Rework Scrap Use-as-is		ſ	Skid-tube Machining noforming	Crosstube Small Fab Finishing		d. Eng. Coor.	Quality Other
NCR I	Ю.					Work Order Update]		Large Fab	Composite	Rec/Stor	Supplier	
Root					Descr	iption of work order update	Π	nitial	Ac	tion	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	* Desc	ription	Dáte	Verification	QC Inspector
oc/Data													
quip/Tooling]		
perator									·				
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etup							ļ						
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rocess													
upplier													
raining													
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						F	AUL	T CATE	GORY				
Landi	ng (Gear				General	_	,			٦	 -	¬
		Bending				Bend	L	Grain			Ovalized		Pressure/Forced
		Centre No	ot Concer	ntric to	o/s	BOM/Route		Hardwa	ire		Over/Under	tolerance	Temperature/Cure
	L	Cracks				Broken/Damaged		4	ion Incomplete		Part Incorre	├	Weld
		Crushed/	Crimped.			Burrs		4	ions Incomplete/	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	enance		Part Moved		
		Heat Trea	ıt			Countersink	L	Mislabe	eled		Positioned V		 1
		Inspection	n Strip in	Tube		Cut Too Short		Misread	t		Power Loss/	Surge	Other
		Ripples in	Bend			Drill Holes		Offset					
		Torque W	aves in E	Extrusio	n [Drawing		Out of 0	Calibration				
		Turning S	equence			Finish		Out of S	Sequence				
		Wave/Tw	ist in Tuk	эe		Folio	1	Outside	Dimensions				

Work Orde		569		*90	966	9*				,		Page 2	
Revision ID:	646.3110 Channel		Å	Accept	*	N900	040	100)* s	etup Star Sto	IV	S1* S2*	
	5/24/13	Start Qty: 10.00 Req'd Qty: 10.00	*10* *10*			Cust Item II Customer:	D:					:	
Approvals:	Process Plan QC:	n:	Date:	Tooling: SPC (Y/N):			ite:		R	un Sta Sto	" \	R1* R2*	
Sequence ID/ Work Center II 120 *120* QC Quality Control)	Operation Description QC2- Inspect parts off ma	chine FAI/FAIB	Set Up/ Run Hou 0.00		Tool ID L 13/04		Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	
130 *130* QC Quality Control		QC8- Inspect parts - secon	nd check	0.00	b . a	13/04/2	5		10	4		08 08 28	
			OSIO17 4 1 10 1	0.00									

140

Outsource process-Anodize per QSI017 4.1.10.1

140 Outsource4

Memo

0.00

Outsource process - Anodize

Issue P/O: 19717 Black Anodize as per Dwg 646.9700

CZ 13/04/26(60)

											DQA:	Date:	•
NCR:	Yes	/ No				WORK ORDER NON-C	100	VFORM	AANCE / UPDA				
				· · · ·	-						QA Closed:	Date:	
Work Ord	0.5.					DISPOSITION				AGAINST DE	PARTMENT	PROCESS	
WOIK OIG	ei.		 -			Rework	1		Skid-tube	Crosstube		Water Jet	Engineering
Part	No.					Scrap			 	Small Fab	Pro	d. Eng. Coor.	Quality
						Use-as-is			noforming	Finishing	Rec/Stor	e/Packaging	Other
NCR	No.					Work Order Update			Large Fab (Composite 🔙		Supplier	
				· · ·							·		
Root						ption of work order update	1	Initial	Action	1	Sign &		
Cause	.	Date	Step	Qty	(or Non-conformance	Cr	ief Eng	Descript	ion	Date	Verification	QC Inspector
Doc/Data	<u> </u>												
Equip/Tooling	<u> </u>												
Operator	<u></u>]										
Material	_		ļ										
Setup	F			·									
Other	-						ĺ						
Process	-						ļ						
Supplier Training	-						ļ						
Unapproved	\vdash												
	 ≷0		<u> </u>	<u> </u>	<u> </u>	F	AUI	T EATE	GORY	w.	L	<u> </u>	
Land		Gear				General							····
	٢	Bending				Bend	Г	Grain			Ovalized		Pressure/Forced
		Centre No	ot Concei	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
		Cracks				Broken/Damaged		Inspect	on Incomplete		Part Incorre	ct	Weld
		Crushed/	Crimped,			Burrs		Instruct	ions Incomplete/Unc	lear	Part Lost/Mi	ssing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Moved		•
		Heat Trea	it			Countersink		Mislabe	led		Positioned V	Vrong	-
		Inspection	n Strin in	Tube		Cut Too Short		Misread	I	[Power Loss/	Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

Work Ord April-11-13 2:		669		*996	369*			Page 3
Item ID: Revision ID: Item Name:	646.3110 Channel			Accept	*N9000	40100*	Setup Sta	10.71
Start Date: Required Date Reference:	5/24/13 e: 5/24/13	Start Qty: 10.00 Req'd Qty: 10.00	*10* *10*		Cust Item ID: Customer:		- 0	
Approvals:		an:	Date:		Date	::	Run Sta Sto	"NRT"
Sequence ID/ Work Center 150 *150* Packaging Packaging	ID	Operation Description Receive & Inspect for Da Memo	mage & Mat'l Certs	Set Up/ Run Hours 0.00	Tool ID	Tool# Plan Ac Code Qt	cept Reject y Qty	Reject Insp. Number Stamp
155 *155* QC Quality Control		QC5- Inspect part comple	eteness to step on W/O	0.00 21	. 17	_/		
*160 *160* SprayPaint Spray Painting			PER DWG, SEB NOTE # 4860-50 PRIMER BATO	\mathcal{N}	W -573	36		J

NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORM	AANCE / UP	DATE					
······································											Q/	A Closed:	D	ate:	The second of th
Work Ord	er.					DISPOSITION				AGAINST D	EPA	RTMENT/	PROCESS		
Work Ora	···					Rework		1	Skid-tube	Crosstube			Water Je	1	Engineering
Part I	۷o.					Scrap			Machining	Small Fab	_		d. Eng. Coor	\vdash	Quality
NCR I	No.		· · · · · ·			Use-as-is Work Order Update			noforming Large Fab	Finishing Composite	_	Rec/Stor	e/Packagin Supplie	-	Other
Root				` .	Descri	ption of work order update		Initial	Act	ion		Sign &			· · · · · · · · · · · · · · · · · · ·
Cause		Date	Step	Qty	(or Non-conformance	Ch	nief Eng	Desci	ription		Date	Verificati	on	QC Inspector
Doc/Data			ł												
Equip/Tooling												1			
Operator	Ш														
Material															
Setup	_			1											
Other															
Process	\vdash														
Supplier	-														
Training	\vdash	1													
Unapproved		L,	I	L	<u> </u>		AUI	LT CATE	GORY						
Landi	ng (Gear				General						<u> </u>			
	_	Bending				Bend		Grain				valized			Pressure/Forced
		Centre No	ot Conce	ntric to	o/s	BOM/Route		Hardwa	re			ver/Under	tolerance		Temperature/Cure
l F		Cracks				Broken/Damaged		Inspecti	on Incomplete		Pa	art Incorrec	:t		Weld
		Crushed/	Crimped.			Burrs		Instruct	ions Incomplete/I	Jnclear	Pa	art Lost/Mi	ssing		Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Pa	art Moved			-
		Heat Trea	it			Countersink		Mislabe	led		Po	ositioned W	/rong		
		Inspectio	n Strip in	Tube		Cut Too Short		Misreac	I		Po	ower Loss/	Surge		Other
		Ripples in	Bend			Drill Holes .		Offset				40.53144			
		Torque W	aves in E	xtrusio	n [Drawing		Out of C	Calibration						

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Ordo April-11-13 2:3	the state of the s	669		*996	369*						Page 4
Item ID: Revision ID: Item Name:	646.3110 Channel		A	Accept	*N900	040	100)* s	Setup Start	ı u.	S1* S2*
Start Date: Required Date: Reference:	5/24/13	Start Qty: 10.00 Req'd Qty: 10.00	*10* *10*		Cust Item I Customer:	D:					
Approvals:	Process Pl	an:	Date:	Tooling: SPC (Y/N):		ate:		F	Run Start Stop	1/1	R1* R2*
Sequence ID/ Work Center II 170 *170* QC Quality Control	D	Operation Description QC14- Inspect Spray Pair Memo	nt	Set Up/ Run Hours 0.00 0.00	Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 *180* Packaging Packaging		Memo	ock Location: S	0.00	# AND REV***				<u> </u>	3/5/	17(10)
190 *100* QC Quality Control		QC21- Final Inspection -	Work Order Release	0.00	1				13/5	1210	9

MCJ 13-05-17

											DQA:	Date	: r
NCR:	Yes	/ No				WORK ORDER NON-	COI	VFORM	MANCE / UP	DATE			
											QA Closed:	Date	
Mark Ord			`			DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Work Ord	er.					Rework	٦		Skid-tube	Crosstube	1	Water Jet	Engineering
Part l	No					Scrap	┨		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
, aici	10.				· · · · · · · · · · · · · · · · · · ·	Use-as-is	1		noforming	Finishing	-1	re/Packaging	Other
NCR I	No.					Work Order Update	1		Large Fab	Composite		Supplier	
											-		
Root					Descri	ption of work order update	- 1	Initial		tion	Sign &		
Cause		Date	Step	Qty	(or Non-conformance	Ch	nief Eng	Desc	ription	Date	Verification	QC Inspector
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Other	L_			ļ					;				
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Training													
Unapproved								;			<u> </u>		
							AUI	T CATE	GORY				
Landi	ing (Sear				Genera!		7			7	- -	_
		Bending				Bend	<u> </u>	Grain			Ovalized	<u> </u>	Pressure/Forced
	L	Centre No	ot Concer	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorre	⊢	Weld
	L	Crushed/	Crimped.			Burrs		Instruct	ions Incomplete/	Unclear	Part Lost/M	issing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Moved		
		Heat Trea	t			Countersink		Mislabe	led		Positioned \	Wrong	
	Г	Inspection	n Strip in	Tube		Cut Too Short		Misread	i		Power Loss,	/Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

Page 1

Work Order ID:

99669

Parent Item:

646.3110

Parent Item Name:

Channel

Start Date: 5/24/13

Required Date: 5/24/13

Start Qty: 10.00

Required Qty: 10.00

Comments:

IPP REV:A NEW ISSUE 12-10-24 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seg ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B1.500X1.500		Purchased	No			· · ·	f	20.3420		13.15789	95		
7075 T6 BAR 1.500 x 1.5	00	*											
				Location		Loc Oty	1.	oc Code					

 Loc Oty

 MAT049
 20.342

 3→123610
 10.842

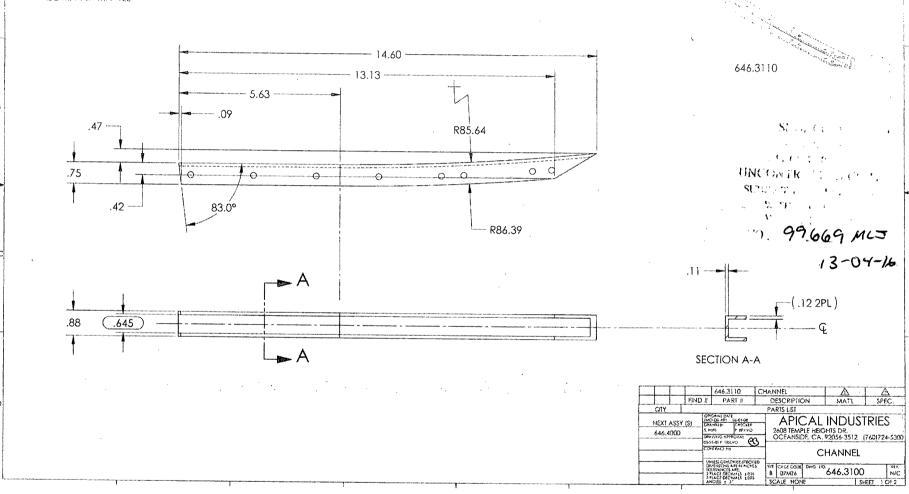
 2→124030
 9.5

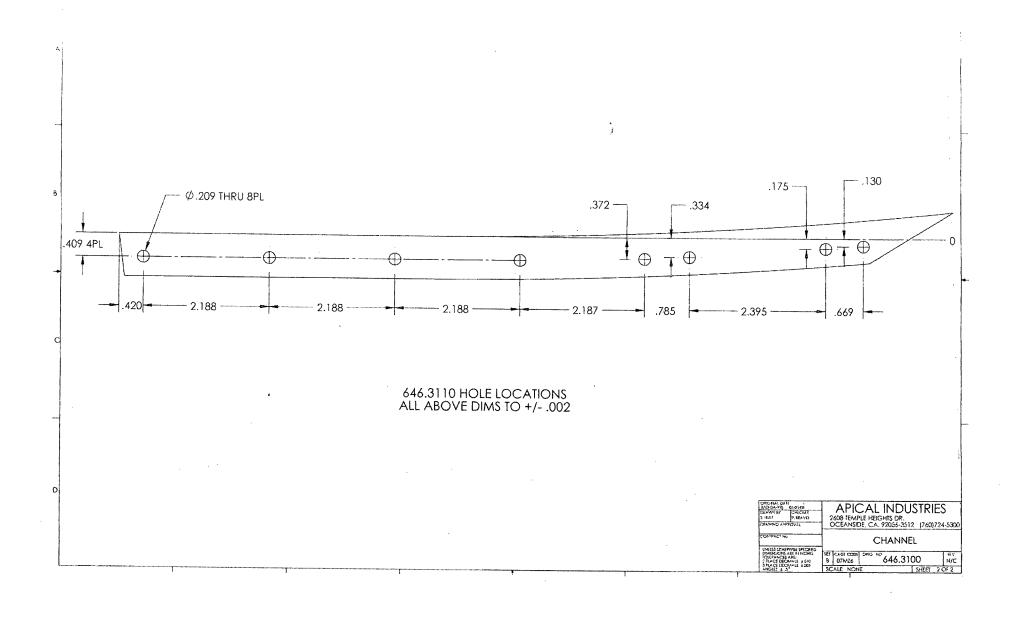
10.54 2.625 Orl 13/04/2

NCR:	Yes	/	No

NCR: Y	es / No				WORK ORDER NON-	CON	FURIN	MANCE / UPDATE		QA Closed:	Date:	
Work Orde	r·				DISPOSITION			AGAII	NST DE	PARTMENT/	PROCESS	A Committee of the Comm
Part N					Rework Scrap] 	ı	Skid-tube Crossto	Fab		Water Jet	Engineering Quality Other
NCR N	0		·		Use-as-is Work Order Update	_		noforming Finish Large Fab Compo	~	Rec/Stor	e/Packaging Supplier	Other
Root				Descri	ption of work order update	In	itial	Action		Sign &		
Cause	Date	Step	Qty		or Non-conformance	Chie	ef Eng	Description		Date	Verification	QC Inspector
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quip/Tooling		}	<u> </u>						,		٠.	
Operator						1			•			
Material												
Setup												
Other								•				
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Supplier		1										
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Jnapproved						<u> </u>				<u> </u>		<u> </u>
		···				AULT	CATE	GORY	·			
Landir	g Gear	٠		_	General				_	1	<u> </u>	7. /.
ļ	Bending			ļ	Bend	\vdash	Grain	•	-	Ovalized	. 	Pressure/Forced
]	Centre N	ot Conce	ntric to (o/s	BOM/Route	$\vdash \rightarrow$	Hardwa		<u> </u>	Over/Under	-	Temperature/Cure
	Cracks			ļ	Broken/Damaged	-	•	on Incomplete		Part Incorred	<u> </u>	Weld
	Crushed/	Crimped.			Burrs			ions Incomplete/Unclear		Part Lost/Mi	issing	Wrong Stock Pulled
ļ	Cuffs				Contamination	\vdash	Mainte		_	Part Moved		
. [Heat Tre	at			Countersink		Mislabe			Positioned V		7
Ĺ	Inspection	n Strip in	Tube		Cut Too Short	\vdash	Misreac	i		Power Loss/	Surge	Other
	Ripples in	n Bend			Drill Holes		Offset					
[Torque V	Vaves in E	Extrusio	n [Drawing		Out of 0	Calibration				
	Turning S	Sequence			Finish		Out of S	Sequence				
	Wave/Tv	vist in Tul	oe		Folio		Outside	Dimensions				

- TO MATERIAL ALUMBIUM /C75-T651 AMS OQ-A 225/9
- 2. FINISH: HARD ANODIZE IAW MIL A-8625 TYPF III CLASS 2, COLOR BLACK: CARDINAL 4860-SO PRETREATMENT PRIMER: PRIME IAW MIL-P-23377 J TYPE I CLASS N
- 3. DEBURR AND BREAK ALL SHARP EDGES
- 4. IDENTIFY IAW MPP-120





DART AEROSPACE LTD	Work Order:	99/169
Description: CHANNEL	Part Number:	646.311D
Inspection Dwg: (, 41, 3/00 Rev: N/L		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
14.60	±, 010	14.592			4-6-	31004
13.13	±. 010	13.130			1.	
.04	+.010	-088			/(
. 47	±.010	. 480				
.75	=:010	.753			Vern	M1.06
.83.00	± 1/2°	83:6			C-Square	
. 88	±,010	.880			Dern	11-02
.645	±, bb5	.647			, ,	
. //	+.010	,110		-	11	
.12	+ 010	.115	_		11	
\$.209	+ 015	0.209			ı/	
.409	±.005	. 411			H-6-	3/062
420	±.002	.418	_		′ (
2.188	±. 002	2.188	<u> </u>		Dem	1666
2.188	±.002	2.188			(j	
2.188	±-002	2.188			'c	
2.187	2-602	2.188			1.	
. 785	+002	.785			4-6	31006
2,395	+.002	2.395			1-	
. 269	= -,002	-669			1 ,	
.372	2-002	.37/			10	
. 334	= 002	332			7 (
130	±.002 ± 002	128			, , , , , , , , , , , , , , , , , , ,	

Measured by: Audited by: D.A DAS Preliminary Approval:

Date: 13/04/24

Date: 13/04/25 & B

Date: Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

\$ 10.04.15



A.T.G. Industries Inc. 731, rue Industrielle Rd. PLATING DEPARTMENT Rockland, On K4K 1T2 Canada

Ph: (613) 446-4544 Fax: (613) 446-4556

Pack List

Number: 62382

Date: 17-May-13

To

DART AEROSPACE LTD 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7 Canada Ship To

DART AEROSPACE LTD 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7

Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

	1 dx. 010-002-1100		111. 013-032-3200	Fax. 013-032-1103	
Terms		Ship Via			
Quantity	Description				
1	Part: ASST		Rev:		
lot	10 PCS 646.3110 12 PCS 646.3717				
(HARD ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2				
	PRIME PER MIL-P-23377J TYPE I	CLASS N			
	2 PCS D4410-043 BLACK ANODIZE MIL-A-8625 TYPE II CLASS 2				
	Job: 20130289	PO: 19717	Line:		
	Certificate of Con	formance			
	A.T.G. Industries certifies that all items i with all requirements, specifications and	n this shipment a drawings referen	re in conformance concerning in the purchase order.		
	ISO 9001 : 2008 REG ATG SALES-2010 TE DATE : 17/5/13				
	CERTIFIED SIGNATURE :				
	RECEIVER SIGNATURE :				
			•	·	
				•	